THE GENESEE FARMER.

Vol. V. ROCHESTER, MARCH 14, 1835. No. 11.

Published by Luther Tucker.

TERMS.—The Farmer is published every Saturday, making an annual volume of 416 pages, to which is added a Title-page and Index, at the low price of $2,50, or $2,00 if payment is made at the time of subscribing.

☞All subscribers must commence with the volume, Jan. 1, or with the half volume July 1. No subscription taken for less than six months.

THE GENESEE FARMER.

SATURDAY, MARCH 14, 1835.

Rochester Seed Store.

REYNOLDS & BATEHAM, the proprietors of the Rochester Seed Store, are making indefatigable exertions to perfect their establishment, by obtaining from Boston, New-York, Philadelphia, and other places, every kind of Garden and Field Seeds which may be wanted in Western New-York or for the Canadian and Western markets. They have just published a sheet Catalogue, embracing a very extensive collection of Field, Garden, and Flower Seeds—all, indeed, which they suppose may be called for. Such an es-establishment, in the hands of men in whom the public can place confidence, has long been wanted in this place, and we doubt not will prove highly beneficial to the public and profitable to the proprietors, who, we are confident, will spare no efforts to give satisfaction to all who may give them a call.

☞For a partial Catalogue of their Seeds, the reader is referred to the second number of the current volume of the Farmer.

Gama Grass Seed.

We have distributed to the first applicants all the *Gama Grass Seed* we had, in parcels of four to six seeds each, and have to regret that we cannot supply several recent applications. We are informed, however, by *Reynolds & Bateham*, that they are expecting some in a few days from the South, which they will sell at 50 cents an ounce.

Use of Plaster.

Extract of a letter from a subscriber in Ovid, to the publisher:

"Our farmers here are becoming more and more convinced of the benefits resulting from the use of Plaster. I presume that in this town there will be double the quantity used that there was last year. The course generally pursued here, is to sow about a bushel per acre on fields that were seeded down the preceding year. They are then pastured or mowed the two ensuing years. In the spring following, they are planted with corn or summer fallowed, and sown with wheat. The wheat after corn is generally equal to that sown on summer fallows. The effect of plaster, when applied to wheat that is backward in the spring, is also very visible not barely in the increase of the straw but in the length of the heads and plumpness of the berry."

☞"*Caleb Coulter*" has our thanks for his favor, which shall have an early insertion, and is informed that any further extracts he may be pleased to furnish us from his Scrap Book, will be very acceptable.

The American Gardeners' Magazine.

A brief notice of our receipt of the second number of this work was given at page 58, and a table of its contents at page 63. The price is three dollars a year. It is designed at the close of the year to make an octavo volume of 480 pages, or to average 40 pages to each (monthly) number. It is printed on a clear type and fine paper.

The present number contains a *colored* figure of *Gladiolus natalensis*, which plant we have also lately imported from England. It is a brilliant flower. In the (English) Horticultural Register for 1832, we find the following notice:

"This splendid species is a native of Natal on the south-east coast of Africa [in about latitude 30° south]; its colors are a yellow ground, richly striped, and spotted with vermillion and light red." Again: "Bulbs of this splendid plant were received by Messrs. Loddiges from the Leyden Botanic Garden. *It bore the winter of* 1830-31 *perfectly well out of doors* in front of a stove in sandy peat and soil, and appears to increase itself by offsetts freely."

Our correspondent in the *north* of England also remarked, "*it is quite hardy;*" and we believe that all herbaceous perennials that are hardy there, will prove so in the neighborhood of our lakes.

The experiments on this plant, detailed in the American Gardeners' Magazine by S. SWEETSER, are as follows:

"In the month of April, I purchased two bulbs and set them in small pots about four inches in diameter, filled with a prepared compost consisting of about one half peat, and one half loam with a small portion of sand, and placed them in the Green House. They remained in this situation, making apparently very little progress in their growth, till all danger of spring frosts and chilling winds were over, when one was turned out of the pot and plunged into the border; the other remained in the pot, which however was shifted once or twice during the season. The latter did not flower, owing undoubtedly to being confined in too small a pot. The former, a few days after its removal, grew astonishingly fast, and by the first of September it had thrown up *four flower spikes* to the height of nearly *four feet*. About the twelfth of the month, it began to open its gorgeous blossoms, and at one time I counted *seven* fully expanded, on one spike. The exhibition of the Massachusetts Horticultural Society, being near at hand; and knowing that the committee wished to collect every thing beautiful, and more particularly every thing new and rare, I took up the plant, placed it in a large pot about ten inches in diameter, and set it in a shady situation until the 17th, when it was sent to the exhibtion. Its removal to the pot, contrary to my expectations, did not injure the blooming in the least, every bud opening in full perfection. The soil where it was turned out of the pot in the spring, was a light sandy loam, without having been enriched; the exposure of the plant to the sun, was only until mid-day, it standing partly under the shade of a tree. I gave it large quantities of water every eve succeeding the hot days of the season; and from this circumstance of its situation, I infer that it loves a loamy rather than a peat soil. The bulb was set only an inch under the surface."

We would remark that many plants are *hardy* in very different degrees. Tulips will endure our severest winters when but partially covered; while others are not safe, as *Narcissus tazetta*, unless protected by several inches of soil in a warm border. *Arum dracunculus* and *Amaryllis longifolia* do well at a depth of eight or ten inches. *Lobelia splendens* will winter at a depth of six inches; but its lateral shoots are formed too near the surface to be safe; and unless they are taken up and set at a greater depth, or well protected, they are sure to perish. We would therefore advise, in making experiments on the hardiness of *G. natalensis*, to place it at a good depth, although it may grow best in summer with only a slight covoring.

We make a few extracts relating to other beautiful plants:

"[*Lobelia*] *fulgens* and *splendens* are natives of Mexico," say the Conductors, "and are not yet very common, though it seems astonishing that their great beauty should not have found them a place in every flower border where it is desirable to gather all that is choice and rare. They are tender plants, and require the protection of a frame, or green-house during the winter. The *speciosa* is a new and very late introduced *variety*. It was found growing among the other *varieties* in a flower border in Scotland, and is supposed to be a hybrid between *syphilitica*, and either *fulgens* or *cardinalis*. It has never flowered in this vicinity till last season; and its rich purple-tinted blossoms form a fine contrast with the bright scarlet ones of the other *varieties*. The *syphilitica* is a native of Virginia [Pennsylvania and New-York], with flowers of a vivid sky blue; and when all five *varieties* are grown strong in pots, and plunged in the border in masses, they form one of the most magnificent objects to be seen among the whole range of herbaceous perennials."

Of the *Salvia splendens*, *S. fulgens* and *S. mexicana*, the Conductors say:

"These brilliant ornaments of the flower garden (particularly that old inhabitant the *splendens*) are of the easiest cultivation. The *fulgens* is of late introduction, flowering we believe in the vicinity of Boston for the first time, last season. The *mexicana* has been also lately introduced. They are ornamental in the green-house and in the pleasure ground. The *fulgens* is not so free a bloomer as the *splendens*, requiring more heat; the *mexicana* is of very strong and tall growth. They should all be propagated as follows: Take off the cuttings at a joint, about four inches in length; trim off the lower leaves, and insert them in good rich soil, composed of loam and leaf mold, equal parts, in pots of six inches diameter, ten or twelve in a pot. If this is done during the months of February, March or April, they will require the aid of a hot-bed to make them strike freely. After they are rooted, which will in general be in about a fortnight, they should be potted in pots three inches in diameter, and again plunged into the bed till they are well established. When the roots fill the pots they should be shifted into the next size; this should be repeated till the weather is warm enough to turn them into the border. They should then as they grow, be tied to a stake, as they are very brittle, and liable to be broken by the wind. They will thus treated, bloom finely during the autumn: the *splendens* with its long spikes of glittering scarlet, the *fulgens* with its dazzling crimson, and *mexicana* with its rich blue flowers."

We have followed the Conductors (in fancy) during their calls at the different Green Houses the neighborhood of Boston with great pleasure and satisfaction; and we shall give each of these a passing notice:

"*Belmont Place, Watertown, J. P. Cushing, Esq.—Jan. 13th.*———The first object which riveted our attention as we opened the door, was a magnificent plant of the Double White Camellia, upwards of *eight feet in height*. Another

splendid plant, corresponding in its situation with the one first named, had open at one time a few days previous to our visit, *sixty* full blown flowers; we counted ourselves, *twenty-five*, and we cannot in language do justice to the delicacy and loveliness of its snow-hued blossoms. The Red varieties may dazzle—the Variegated excite astonishment- the Blush gratify our admiration —but the old double White alone, will maintain its richness and attraction, when all the other varieties now existing shall become extinct.

"*Oakley Place, Wm. Pratt, Esq.—Jan. 13th.*—*Polygala grandiflora* was splendidly in flower. The plant was imported four or five years ago by Mr. Pratt,but has not flowered till this year; the *P. speciosa*, about the same size, will be out in a few days.

"*Roxbury, J. Lemist, Esq.—Jan. 15th.*—On one plant of the Double Striped Camellia, we counted sixteen full blown flowers; it is singular what a difference there is in some plants of this variety; sometimes they open almost red, and again they are as perfectly striped every petal, as a carnation; we have some in bloom which almost resemble the York and Lancaster rose.

"*Hawthorn Grove, Dorchester, M. P. Wilder, Esq.—Jan. 15th.—Jambosa vulgaris* is showing its fruit, and if placed in a hot house would probably ripen. It is a native of the East Indies and there called the *Rose Apple;* it is an eminently beautiful shrub; its clusters of delicate white tassel-shape flowers, contrasted with the dark green foliage, and cinnamon colored shoots, has a lovely appearance. Its fruit is said to be so powerfully perfumed with rose water, that but one or two can be eaten.

"*Brookline, T. H. Perkins, Esq.—Jan. 20th.*—This is an elegant residence. There is here a plant of the *Enkianthus quinqueflora*, belonging to the Natural Order Ericeæ; it was imported by Col. Perkins three years since from the celebrated establishment of the Messrs. Loddiges, and is the only specimen in the country; it cost *six guineas.* It is just showing its pink buds which hang in pendulous umbels, and will be open in a few days.

"*Somerset Place, R. Rogerson, Esq.—Jan. 17th.*—Mr. Rogerson has some fine large Peach trees in pots, which he intends to take into the green house in a few days to force; they are full of very prominent blossom buds, which would soon expand if placed in a proper temperature. He has also some very fine Cherry and Fig trees in pots which promise finely."

The account of these calls, from which we have made *very brief extracts*, has reminded us of J. Paxton's reply in the (English) Horticultural Register to a visiter at Chatsworth. We are far from believing that the Conductors of this Magazine, need any such advice; but we think it good, and know of no better opportunity of introducing it to our readers:

"Allow me to offer you a little friendly advice respecting your calls at private gardens.—It is really too bad, that because a gentleman does not think proper to spend as much money on his garden, as his neighbor, *it is to be published to his discredit all over the Kingdom*, and cause his gardener to be thought ill of, who has no opportunity of remedying it. If in your travels you were to *give gardeners private advice*, as to what you consider would improve their places, or *publish such only as are real improvements*, you will be doing them a kindness.

"I hope you will continue to *criticise public gardens*—this is quite a different affair; but in England, every man's house being his castle, whether he chooses to live on salt and water, or ornament his window with a bouquet of cabbages, no one, we conceive, has any business with it, provided no person receives injury by his so doing."

There are a few trivial defects in this work, which we should be glad to see avoided in the future numbers; and we mention them for this purpose in the spirit of kindness.

Using *heat* (het) instead of *heated*—Example: "It is *heat* by hot water." page 75, line 2 and 6. See Webster's 8vo. Dictionary.

Sometimes giving the *generic* without the *specific* name of plants—Ex: "Two plants of the *Strelitzia* rapidly pushing into bloom." p. 72, line 6 from the bottom.

Sometimes giving the *specific* without the *generic* name—Ex: "The *fulgens* and *splendens* are natives of Mexico." p. 56, line 8 from the bottom.

Confounding *species* and *varieties*—Ex: "*Primula prænitens, alba* and *purpurea.*" p. 75, line 14 from the bottom. These are neither *three* species nor varieties, but only *two* varieties of *one* species. It would be better to write *Primula prænitens*, var. alba, &c.

For "*genus*," p. 55, line 8 from the bottom,read *genera.*

For "*Gladioli*," p. 55. line 2 from the bottom, read *Gladiolus.*

One more hint, and we have done: Using the word *varieties* instead of *species*—Ex: "These five *varieties* of the showy genus Lobelia." p. 56, line 21.

Again we cordially recommend this Magazine to public favor. Among the contributors we observe many names of high standing as horticulturists; and as one of these our old friend Grant Thorburn (the Laurie Todd of Galt) whose writings possess a raciness which to us has always been refreshing.

Inquiry and Suggestion.

The following is from a subscriber in Canada:

Will any of your correspondents inform us if they use the circular saw, attached to a thrashing machine, for the purpose of sawing wood for fuel?

Such an instrument will save an immense expense of labor, where the logs can be brought up in sleighing time and placed near the machine. In Mr. Garfatt's establishment in the North Riding of Yorkshire, there is, I believe, a contrivance of this sort, which answers the purpose very well. To the same machine may be attached, as occasion requires, a straw cutter, corn sheller, and, what would, I am sure, amply repay the cost, a grain crusher. If the time which is spent and lost in conveying grain to the mill—the disappointment in having to repeat the journey to and fro, from the want of attention and other causes, be taken into account, what a saving may be effected by this thrashing machine and its assistants.

Will any mechanic inform us for how much he will execute and put up one of this kind?

Niagara District, U. C. AGRICOLA.

Receipt for the cure of American blight, or mealy aphis, on apple trees.

"Dilute three quarters of an ounce measure of sulphuric acid with 7½ ounces of water, made slowly." This liquor to be applied all over the bark of the stem and branches, by means of rag mops, taking care not to let it touch the young shoots, which it would kill, or the operator's clothes, which it will injure. This fluid kills every insect it touches.—*I. Couch, in Gard. Mag.*

Train oil, applied with a brush, or soot and oil, laid on in the same way, or even clay and water applied like a coat of paint, are all used for destroying this destructive insect. Nor is there occasion for applying the remedy to the entire bark, as the insect is found almost entirely at the separation of the branches, or near the surface of the ground, where alone the application need be made.—*Cultivator.*

The Culture of Silk.

We publish the following letter as an introduction to the extracts we have annexed, in preference to any remarks of our own:

Marcellus, March 4, 1835.

MR. L. TUCKER—The Report of the Commissioners, appointed under an act of the last session of the Legislature, to inquire into the regimen and discipline of our State Prisons, has just come into my hands. The whole of it is highly interesting to the citizens of this state, yet that part of it which recommends the introduction of the culture and manufacture of Silk in these penitentiary establishments, peculiarly attracts my attention.

I do not believe you can devote one, two, or more, pages of the Farmer to a more useful and acceptable purpose, than by giving a few extracts from this Report, relating to the last mentioned subject. There are appended to the Report, some interesting remarks of the late Chief Justice Spencer, on the subject, and in favor of the object thus recommended. From these too, extracts should be taken, for they merit the most extensive publication. It appears to me that the project of converting our State Prisons into silk manufactories cannot fail of commending itself to the approbation of all discerning citizens. Farmers then, and all others who have the means of doing it, should promptly come up to the aid of this object, by planting Mulberry trees, and preparing to supply the raw material. Why are our citizens so faithless in regard to this business, and so slow to engage in it? It certainly holds out the most cheering prospects of successful enterprise. It will be seen that, if the project recommended by the commissioners is carried into effect, a ready home market for cocoons and silk in any of its forms, will be supplied, and that, no doubt, at liberal prices. This subject should especially engage the attention of Superintendents of Poor houses, and they ough not to slumber over it.

Respectfully, yours, &c. DAN BRADLEY.

Extracts from the Report of the Commissioners above alluded to:

"The manufacture of silk, which is included in the articles above enumerated, as likely to prove profitable and useful, deserves a more explicit notice. The Commssioners learned, from his Excellency the Governor, that the late Chief Justice Spencer had some views upon the subject, which he was disposed to submit for their consideration. They accordingly called upon Judge Spencer, and obtained his permission to append to their report his views, which he read to them, and which are herewith submitted, marked S. By some quite recent publications in the newspapers, it appears that a machine has been invented, and is now exhibiting at the Capitol in Washington, by which the difficult art of nicely reeling the silk from the cocoons, with that of preparing it for the loom, is attained with comparatively little labor. The Commissioners, upon considerable reflection, are satisfied, that this business may be introduced into both the State Prisons in this State with great advantage. The business of raising mulberry trees, and picking the leaves for the purpose of feeding the worms, is rather agricultural in character, and would be difficult of prosecution among convicts, who must necessarily labor in large numbers on a small space of ground; but the business of preparing the silk from the cocoons, and weaving it, presents no such difficulties, and by starting those branches of the business in each of the prisons, and increasing it as fast as the supply

of cocoons raised in the country for sale would warrant; and, at the same time, by taking measures to promote the production of cocoons in the country, by the offer of a fair price and a certain market for them, and by the immediate planting of that part of the state farm at Sing Sing, which is not wanted for marble quarries, with the white mulberry, with a view to the raising of seeds and plants for distribution, it is confidently believed, the most beneficial results may be obtained. It is satisfactorily established, by experiment, that both the soil and climate of every part of this country are eminently adapted to the culture of silk, and that too of a very superior quality.

"The present imports of silk goods into this country are enormous, and not less than from five to ten millions of dollars annually. If the introduction of so important an article, as a staple production, can be produced, or indeed in any degree promoted, by means of the labor of convicts, it would be something towards remunerating the country for their depredations. All efforts to produce such a result, with any reasonable hope of success, are, at least, highly worthy the attention of an enlightened Legislature.

"The suggestion of Mr. Spencer, in his remarks upon the subject, that cocoons might be advantageously produced at the several county poor-house establishments, is also worthy of attention. The immediate planting of the white mulberry, to a considerable extent, upon the farms attached to the several county poor-houses, would not only be the means of supplying the prisons with cocoons, but would afford a profitable business for the several counties, and be peculiarly adapted to the feeble powers of most of the inmates of those establishments. The attention to be paid to this branch of the subject, which for its full development will take a period of several years, should not, in the mean time, prevent the adoption of the other proposed measures for the intermediate, and if it should prove necessary, permanent, employment of the convicts." —

The following is from the Statement furnished to the Commissioners by Judge SPENCER:

"That our soil and climate is favorable to the rearing of the mulberry, is a fact too well established and notorious to require any observation. The worm has been successfully raised in various parts of this State, within my own knowledge, and I presume within the knowledge of several gentlemen of both Houses of the Legislature; and I consider it as well ascertained that the climate of this State is genial to the silk worm.

"The greatest hindrance hitherto to the culture of silk, has been the difficulty of extracting it from the cocoon; the reels in use in France and other parts of the continent where the worm is raised, are so imperfect that it has been considered an art of difficult acquisition to reel the silk in an even and perfect manner from the cocoons, so as to be suitable for fabrics; and from the circumstance that the worm is not reared to any considerable extent, if at all, in England, it would be necessary to procure instructors in the art of filiature from France, or some part of the continent of Europe, unless indeed American ingenuity has surmounted the difficulty. It has been confidently asserted that Messrs. Gay and Mosely of Connecticut, have invented a machine for extracting the silk from the cocoons, greatly simplifying the process, by which the fiber of the thread is preserved from fretting by friction, and is consequently less liable to break in the weaving; and I have seen within a few days an account of the exhibition of their reel, and its operation in a very satisfactory manner in the Capitol at Washington. If this reel should answer the purposes attributed to it, then one of the most serious and one of the greatest difficulties in the culture of silk in this country, is already overcome.

"I have already said that the culture of silk does not exist in England, and the same remark applies to Mexico, and yet it is certain that the mere manufacture of silk in England is one of its greatest sources of wealth. If with a more genial climate we can produce the silk and manufacture it, may it not be safely affirmed that it will be to us also a greater source of riches and wealth?

"Immediate measures ought to be undertaken, under the auspices of the State, to induce the planting of the mulberry, either by judicious bounties, or exemption to a certain extent from taxation. I think it would be advisable for the State to purchase tracts of land in the vicinity of the State Prisons, say two hundred acres for each, and immediately commence the cultivation of the mulberry in a way to insure a supply of leaves in the shortest period possible, to the end that the worms may be raised by some of the convicts. If the public can rely on finding a market for their cocoons at the State Prisons, then a out strong inducement will be held to the rearing of the worm: And when it is considered that the process is perfectly simple, and that it requires only the labor of women and children, subtracting nothing from other agricultural labor, and that the gains are almost all clear profits, it ought not to be doubted, that in a few years there will be an abundant supply of cocoons, which from the great facilities of transportation, can readily be conveyed to the prisons. Inasmuch, however, as we cannot expect a supply of cocoons in sufficient quantity for the prisons in a less time than five or six years, and it may be more, and as it is desirable that the new system shall go into operation as soon as may be, I perceive no objection to the adoption of measures to procure at once a supply of unmanufactured silk, with which to commence the instruction of a portion of the convicts in the art of manufacturing. There can, I think, be no doubt, with such a widely extended commerce as we enjoy, unmanufactured silk can be procured on terms as favorable to us as to the English manufacturer. With regard to instructors, they can be obtained at all events from England, and it is believed they are already in the country among the emigrants from England. There should be a skilful superintendent, and two or three other good workmen engaged on the express condition to instruct the convicts in the various processes of dyeing and manufacturing.

"When it is considered that the convicts are of all ages, and that they are ingenious, it scarcely admits of a doubt, that a considerable portion of them would be apt learners, and, after some time, be capable of instructing others, and thus, while we were preparing to rear the worm and produce the cocoon, the art of manufacturing could be attained. If, after all, we are to have recourse to the foreign reel, and should be obliged to obtain instruction in the art of reeling, it would, I think, be advisable to begin with that also at once. Cocoons can be procured, with little trouble, in sufficient quantities to afford instruction in the art of reeling, and one or more instructors can be procured. In a report made to the House of Representatives in Congress, in 1829, it was stated, that the importations into the United States of silk fabrics, in five years, from 1821 to 1825, inclusive, amounted to $35,165,494; of which only $7,968,011 were exported; and, by a document recently published, it appears that the importation of silks from France alone, in 1833, amounted to $6,256,000; so that our importation of silk goods from various countries, cannot be less than about $10,000,000 annually; exceeding considerably the value of our bread stuffs exported.

"These facts would seem to call for a united effort, to avail ourselves of the advantages within our power, in opening a new source of industry, holding out the assurance of such rich rewards to the agriculturists, and the mechanical ingenuity of this country.

"If the convicts in our State Prisons are able, by their labor, at the low price for which they have been let out, to maintain themselves, and even produce a surplus, can it be reasonably doubted, that after a short time they will be able, in the culture and manufacture of silk, to increase the profits of the prison?

"I had omitted, in its proper place, to state, that the county poor-houses would be very proper places to rear the silk worm. They have generally farms attached to them; in these should immediately be planted mulberry trees. The inmates of these houses are generally incapable of severe labor, but are very well adapted to gathering the leaves, and tending the worms. This employment would be a lucrative business, and the poor-house alone, in a few years, would afford cocoons to employ a considerable number of the convicts. The duty of organizing and bringing into operation the plan proposed, may properly be confided to one or more of the State officers, with the aid of the officers and inspectors of the prisons. I cannot speak of the expense of the necessary machinery, and the compensation to the instructors, but it may be safely asserted, that these are insignificant when compared with the high advantages and the rich rewards which may safely be anticipated; besides the satisfaction of quieting the apprehensions and complaints of our deserving fellow-citizens.

"If the State of New-York shall be the first State in the Union to introduce, on a large scale, the culture of silk, and its manufacture also, she will have another claim on the admiration of her co-States; and if any suggestions of mine shall aid in this great and splendid enterprise, it will afford me high satisfaction. A. SPENCER."

January 28, 1835.

Field Culture of Beans.

The following remarks on the culture of Field Beans, are from Judge Buel:

"Beans may be cultivated in drills or in hills. They are a valuable crop; and, with good care, are as profitable as a wheat crop. They leave the soil in good tilth. The China bean, with a red eye, is to be preferred. They ripen early, and are very productive. I cultivated beans the last year in three different ways, viz. in hills, in drills, and sowed broad-cast. I need not describe the first, which is a well known process. I had an acre in drills, which was the best crop I ever saw. My management was this:—On an acre of light ground, where the clover had been frozen out the preceding winter, I spread eight loads of long manure, and immediately ploughed and harrowed the ground. Drills or furrows were then made with a light plough, at the distance of two and a half feet, and the beans thrown along the furrows about the 25th of May, by the hand, at the rate of at least a bushel on the acre. I then gauged a double mould-board plough, which was passed once between the rows, and was followed by a light one horse roller, which flattened the ridges. The crop was twice cleaned of weeds, by the hoe, but not earthed.—The product was more than forty-eight bushels, by actual measurement. The beans brought me one dollar the bushel last fall. The third experiment was likewise upon a piece of ground, where the clover had been killed. It was ploughed about the first of June, the seed sown like peas, upon the first furrow, and harrowed in. The drouth kept them back; but about 65 rods of ground, on which the experiment was made, gave a product of twelve and a half bushels. The crop was too ripe when it was harvested, and as it was cut with a scythe, I estimated that about two and a half bushels were left upon the ground. No labor was bestowed upon them from the time they were sown till they were harvested."

How to preserve pigs in good health and in good appetite during the period of their fattening.

Mix with their food a few gall nuts, bruised with charcoal. We are unable to account how this operates so beneficially on the economy of the health of these animals, but we are wishful to make it public, as we have experienced the result to be decidedly good.—*British Far. Mag.*

It is known to every farmer, that hogs, when fattening in a close pen, are liable to lose their appetite, become sick and die. There are several preventives for this evil—as occasionally mixing a little sulphur with their food, giving them charcoal, rotton wood, or permitting them to root in a small yard appended to the pen. Some of these precautions are necessary.

COMMUNICATIONS.

On Draught.--No. VI.

BY QUERCUS.

The consideration of Canal Boats, as vehicles of conveyance, occupied more time and space than I had at first intended, and yet, with all its prolixity, the subject was but barely commenced. I should be much gratified to see it farther discussed and elucidated by some more able pen than my own, especially as there seems to be a prevailing disposition throughout our country to relinquish Canals in favor of Railroads. For the present, I must leave the subject, and proceed to the consideration of some of the other vehicles ordinarily in use.

Sleds, or sledges, were doubtless among the earliest inventions of man for the conveyance of burthens, but it will be unnecessary for me to go back to the primitive ages, and trace the gradations of improvement which have followed these simple vehicles through a period of 4,000 years up to our more perfect wheel carriages. It is sufficient for us to know, that however high they may have been once estimated, their use is now almost wholly abandoned as a means of conveyance. But notwithstanding the immense friction incurred in their use, there are cases where they may be used with convenience and even advantage. When heavy loads are to be moved for short distances, over uneven, rocky ground, or through low and boggy places, a resort to sleds or sledges seems to be desirable, although the power required to draw them will be four or five times greater than that required for an equally loaded cart upon a common road.

The draught of a sledge over a rocky or uneven surface is found to be about one fifth of the load, so that to draw a ton weight will require a force of traction of about 400 lbs. Upon common roads the friction will be much greater, and of course the force of traction increased; they are therefore unfit for use, except in special cases.

The use of sleds and sleighs upon ice and snow, however, presents far different claims. We all know the advantage thus gained; and this facility of movement depends upon precisely the same principles, as their increased resistance when drawn over a gravelly surface. In the one case, the friction is enormously increased by the contact of grinding surfaces; and in the other as wonderfully diminished by the peculiar qualities of ice; so that the same force of traction will move more than double the weight which it would, even upon wheels. The grand desideratum, in all cases of draught, is to get rid of, or overcome resistance, and it matters not whether this is accomplished through the intervention of ice or wheels. In all cold climates, sleds are in constant and general use, and the depth of winter is the season for transporting merchandize.

Another process in overcoming friction, is in the use of rollers. These constitute perhaps the most perfect relief to moving substances, inasmuch as their motion is attended with the least friction. There are three kinds of rollers which are in frequent use; the perfect cylinder, the cylinder with increased extremities, and the ball.

If a cylinder, and the plane on which it moves, could be made perfectly hard and unyielding, it is easy to see that no increase of weight upon the cylinder could in the least degree increase the friction; for the contact of a circle with a straight line being only a point, the contact of a series of circles, or a cylinder with a plane, can only be a line. It matters not, therefore, whether the weight be more or less, in the case supposed, as the point of contact must always be simply a line. But in practice, no such perfection can be obtained, and in the use of rollers we are subjected to all the resistance inseparable from unevenness of surface and the yielding of materials.

Another difficulty exists in their practical use, to wit, the constant supply of rollers necessary in front of the moving body. This is caused by the weight's advancing at twice the rate of the roller; for it is easily shown, that the point of contact with the weight, always moves with twice the velocity of the center of the roller, and as the velocity of the center, is that of the roller, so the velocity of the point of contact, is that of the weight.

Nor are these difficulties at all diminished in the use of balls; for though they move in grooves and are easily handled, they nevertheless require to be constantly renewed in front of the moving body, and must yield more or less under pressure.

The cylinder with increased extremities, is somewhat preferable to the others, inasmuch as the weight being placed on its small central part, will not gain so rapidly on the roller; for the ends which come in contact with the ground being larger, and operating something like the wheel and axle, will move with more than half the velocity of the weight, and consequently a less number of rollers will be necessary. But after all, the use of the roller must be confined to short distances, and when a reduction of resistance is of more importance than time or space.

We next come to the consideration of *wheels*, and it is hardly necessary to say, that they fully obviate all the objections and difficulties incidental to the use of the roller and sledge. Nothing could be better adapted to the use for which they are intended, and no contrivance has ever been found to supplant them. During a period of more than 3000 years, they have been constructed upon principles precisely the same as at the present time; and though they have undergone every variety of shape and form, they have all depended upon the simple principle of the section of a cylinder, revolving upon a fixed axle. Connected with the subject of draught, their object is to relieve friction, and thereby diminish the necessary force of traction. To effect this, they transfer the friction which would take place between a moving body and the surface over which it moves, to the smooth, oiled peripheries of the axis and box; while they at the same time, possess a mechanical advantage for overcoming obstacles proportioned to the squares of their diameters.

But as their particular adaptedness to relieve friction must depend upon their form and construction, it will be necessary to elucidate our subject, to consider the advantages and disadvantages of the various forms of wheels, and the channels upon which they move.

The theory of the wheel is very simple. It being a circle, and supposing it to move upon a level plane, the center will always remain at the same height, and consequently move parallel to the plane. If, then, a weight is attached to its center, this weight will also move in a straight line, and continue so to do, as long as motion is communicated to the wheel. If, therefore, there is nothing in the mode of attaching the weight to this center, to impede its revolution, we should only have to examine into the force necessary to turn the wheel; but in practice the weight cannot revolve with the wheel, but must rest upon an axle passing through its center; and it is therefore the friction created by the pressure of the weight and axle upon the lower surface of the aperture, which is the source of resistance. Now this friction bears the same proportion to the force necessary to be applied, as the radius of the axle does to the radius of the wheel, and therefore the force which is necessary to overcome this resistance is *inversely as the radius* or *diameter of the wheel*, or in other words, the draught will diminish exactly in proportion as the diameter of the wheel is increased.

But the exact *amount* of resistance occasioned by this friction, will depend upon the nature of the substances in contact at the axle, as well as upon the dimensions of the wheel and axle. Metals and polished surfaces are found to be best adapted to this purpose, and will also bear the greatest pressure without injury.

Now the friction in such cases, where the parts are properly greased, amounts to about one-sixth of the weight; and if the diameter of the wheel is to that of the axle as 18 to 1, which is a common proportion, then the whole resistance arising from friction at the axle, will be equal to $\frac{1}{6}$ of $\frac{1}{18}$, which is equal to $\frac{1}{108}$. Therefore, to move a ton weight, would only require a force of about 18½ lbs., and as friction is not increased by velocity, the same force would only be requisite at all velocities.

But in practice, the friction at the axle is but a small portion of the resistance we have to encounter. The impediments upon roads, the yielding of materials, and the circumstances of the load, all have an important influence upon the draught. But as the friction at the axle must always remain about the same, to obtain the whole draught of a carriage, we should only have to ascertain the resistance arising from these other sources. But in doing this, there is great difficulty, and to exemplify the matter, I will state the result of some experiments made in England, to ascertain the difference of resistance upon different kinds of roads.

A light four-wheeled wagon, weighing with its load 1,000 lbs., was repeatedly drawn upon different kinds of roads, and the average result was as follows:

Description of Road.	*Force of traction required to move the wagon.*
Turnpike road—hard, dry,	30½ lbs.
Do. dirty,	39 "
Hard, compact loam,	53 "
Ordinary cross road,	106 "
Turnpike road—new gravelled,	143 "
Loose, sandy road,	204 "

The friction at the axles, which were of wood, was, of course, nearly constant, and probably absorbed at least $\frac{1}{60}$ of the weight, or 12½ lbs. of the force of traction, leaving for the resistance caused by the road, as follows:

Turnpike road—hard, dry,	18 lbs.
Do. dirty,	26½ "
Do. new gravelled,	134½ "
Loose, sandy road,	191½ "

So that in the last case, the portion of draught caused by the state of the road, was ten times as great as on a good hard turnpike, and about fifteen times as great as that which arose from friction at the axles. The most of the roads in this country will come nearer to the two last, than to either of the others, so that we may fairly estimate the average draught upon most of the roads in this State to be at least ten times the amount caused by the friction at the axles. It would be hopeless to attempt to remedy this, by increasing the size of the wheels; we must, therefore, have some reference to their form, which more or less influences the state of the roads. QUERCUS.

Culture of Ruta Baga.

BY WM. R. SMITH.

The following is an account of the method I pursued in the cultivation of Ruta Baga. I sowed three-fourths of an acre, the most of which had been well manured the year preceding—soil, a deep sandy loam. The land was ploughed three times, and then thrown into low ridges about 20 inches apart. These were smoothed down with a hoe, and a man followed with a sharpened stick to make a light drill in the top of the ridge. The seed was sown in these drills with a tin cup, which had two small holes punched in the bottom—in the top was fixed a tight wooden cover, to which was attached an upright handle two feet in length. The sower should walk at an even pace, shaking the cup gently. A boy followed with a light roller, which completed the work. Several rows were sown on the ridges as they were left by the plough, and no difference could be observed between them and the others. A rain, however, followed the sowing. Had it continued dry, I doubt whether these rows would have succeeded as well as the others. I used a pound of seed. This, I am aware, would be considered a great deal; but the cost of the seed is trifling in comparison with the value of the privilege of having a plant just where we want it. As soon as they were in the rough leaf, I thinned them out at from eight to twelve inches distance from each other.

1834. EXPENSE OF CULTIVATION.	Dr.
4 mo. 26—Ploughing, ½ of a day, 12s.	$1 00
6.."..2.....Do.....do.....12s.	1 00
"."..30.....Do.....½ day...12s.	75
"."."—Ridging,.....¼.."....12s.	38
"."."—½ day. sowing, three men and one boy, ...5s.	1 25
Seed, 1 lb.....8s.	1 00
7.."..22—Weeding and thin'g, 12 days, 5s.	7 50
"."..31—Weeding, 2½ days,.....5s.	1 56
8.."..16....Do.....1½ days,.....5s.	94
11.."..8—Drawing from the ground, 5 days,.....5s.	3 12
Covering, 1 day,.....5s.	62
Interest on land at $50 per acre..	1 75
	$20 87
Cr.	
By 40 bushels, sold at 2s.	$10 00
...486..do...certainly worth 1s.	60 75
	$70 75
Nett gain,.....	$49 88

But in my opinion when corn is worth 50 cents the bushel, turneps ought not to be estimated as low as 12½ cents. I have not, however, made experiments sufficiently decisive to show what the relative value is, but I have fattened three oxen upon them, and those who had opportunities of judging, acknowledged that animals could hardly thrive better than they did.

Errors in Cultivation.—I think, unless for house use, they should not be sown later than the 15th of 6 mo. The first weeding was put off much too long—labor more than doubled on that account. They should be sown 2½ or 3 feet apart, that the cultivator may be used.

Macedon, 3 mo. 6, 1835. WM. R. SMITH.

Bots in Horses.

BY SPECTATOR.

Several productions in this useful paper have suggested some ideas to my mind on the subject of bots in horses, but the articles to which I have more immediate reference at this time are one on page 41, vol. 5, and another on page 49, vol 5. Perhaps it is unnecessary at this time to say that the bot is the offspring of the bot-fly, produced from the egg of the fly, generally attached in the greatest profusion on the inner side of the fore legs of the horse, just below the knee, as that part of the history of the insect is so generally admitted. I have the fullest confidence to believe that the community in general have a just aversion to deception and delusion in every form, and all that it is necessary to know is the real truth to form a proper rule of action. If the theories inferred in those articles prove correct, the treatment for bots will probably widely differ from that adopted formerly. We may well confess, if the experiments mentioned in the former article are correct, that seldom any thing that a horse can endure will detach or destroy his bots. And indeed, if the remedies are to be so virulent and caustic as to produce abrasion and inflammation of the coats of the stomach they would endanger the life of the horse, probably far more than the bots could do if they were unmolested; therefore, it is but a demand of humanity that such practice should be abdicated for some more rational theory. The remarks also of the latter article furnish some suggestions, if they are admitted as facts, that are highly important to judicious action.

It appears that a bot is a bot-fly in its larva or masked state—at greatest maturity of a dark brown or redish color,—marked in distinct rings or horny circles, (not unlike the posterior part of a wasp or bee,) about three fourths of an inch in length and about three eighths of an inch in thickness, nearly or quite round, and armed with short stiff bristles, and furnished at their tails with two very sharp black hooks somewhat turned out and about one fourth of an inch in length, but with no legs, or feet, or teeth, or other apparatus of the mouth, wherewith it might gnaw, or perforate the stomach of the horse—that when detached, the bot has little or no power to remove to any particular spot, but only grapples or inserts its hooks to the part it may happen to come in contact with.

It also appears the bot is so short and thick, so armed on all sides with short stiff bristles, and so immovably attached by its hooks, that it can but with great difficulty if at all apply its mouth to any part of the stomach or other part to which it may be attached, except the part be so far emptied that it may so far collapse as to bring the part opposite the mouth of the larva in contact with it; and indeed, if such a case should occur, the vermicular motion of the stomach and intestines are so constant and great that the insect (we should suppose) could but seldom bite twice at the same place, especially if it has not the ability to grapple or hold at both ends at the same time.

I believe it is now generally admitted that the bot-fly, like many others of the insect tribe, has three peculiar states of existence, viz: first, the egg; secondly, the bot, larva, or masked bot-fly; and thirdly, the bot-fly with organs replete for the propagation and continuance of their species. As the male bot-fly has no part in attaching the eggs of the insect to the horse, probably it is a reason why it is but seldom seen, but the assiduity and perseverance that the female bot fly manifests to affix her eggs to a location to her liking is truly astonishing, while the aversion of the horse to the same operation seems to be nearly or quite equal. It seems, to alleviate the itching of the part, or to drive away the intruder, or both, the horse gets more or less of the eggs entangled in his mouth, which are afterwards carried along with his food and drink until the warmth and moisture they experience metamorphoses them from an egg to a bot, when they insert their hooks and thereby affix themselves an unwelcome tenant until the period arrives for them to further metamorphose into a bot-fly. It appears the bot, or larva in its masked state, has the power of contraction so much as to fetch its rings or coat-of-mail in such contact as to resist almost or quite any substance the stomach of a living horse can endure. I think we may fairly infer that the natural food of the bot is the most liquid part of the food of the horse, and as the stomach of the horse becomes empty, the gastric juice becomes somewhat more concentrated and acrid, and produces that uneasy sensation called hunger, which also in some cases may, for ought we know, discommode the bot, which in its turn may goad with its horns or otherwise irritate the horse.

If the foregoing suggestions are correct, it appears that we may infer that it is but seldom at least that the bot can be detached by force, or caustic, or even drastic remedies; therefore, may we not with good reason hope to destroy them by banqueting. Probably feeding the horse well would also feed his bots, and thereby relieve both animals of hunger at once. Some bots may be conducive to the appetite and health of the horse for aught we know; but too great a number will doubtless augment the voracity and probably jeopardize the welfare of the horse.

We would now conclude our remarks with a few suggestions of palliation or cure. At the time the bot-fly is affixing her eggs, which is generally from 1st September to 1st November, let them be often scraped off and the part be besmeared with tanner's oil, tar or some other substance that would deter the approach of the fly; and if this fails or not, let the horse be well and timely fed, as this is the joy of his life, and feeds the horse and bots together. But if we either know or suspect that a horse has too many bots, let the following course be tried and repeated until the operator is satisfied of its ability or inability to accomplish the destruction of the larva:

One quart of fresh milk, saturated with honey, molasses, or sugar, in the order here observed,

(and given fasting if possible;) let him rest two hours, then drench with a pint of brine made as strong as boiling water and salt will make it; let him further rest two hours, then drench with half a pint of linseed oil.

It is asserted that the bot will fill itself so full of the foregoing milk mixture that it cannot contract so far as to close its rings to prevent the brine from acting on its tender skin between them, which causes it to quit its hold to seek relief, while the cathartic operation of the oil removes them beyond the power of doing further damage. SPECTATOR.

Brighton, N. Y., Feb. 25, 1835.

Food of Plants.

BY R. M. W.

Drs. Priestly, Ingenhouse, and Mr. Senebier, have proved that it is the nitrogenous gas which more particularly serves them for aliment.—*Chaptal*, 422.

As the basis of nitrogenous gas is unknown to us, it is difficult to conceive what may be its effect upon the vegetable economy, and we cannot follow it after its introduction into the vegetable. We do not find it again until the decomposition of the vegetable itself, when it reappears in its gaseous form.—*Ibid*, 423.

MR TUCKER—Although Mr. Chaptal quotes very high authority, and is himself the most practical and observant of any Chemical author I have ever read, yet I am inclined to be sceptical as to the nitrogenous gas being the food of plants—because I have never observed or detected it in a solid form in any plant. That it does enter the air vessels in common with oxygen and carbonic acid, there can be no doubt; but I believe it is never decomposed, but always retains its *gaseous form*; but the carbonic acid is obviously decomposed.—the carbon retained, and the oxygen thrown off.

About 16 years since, I was making a coal-pit, in which I put 10 cords of wood, and finding the carcase of a dead dog, out of curiosity I placed it in the pit. After the moisture of the wood was driven off by heat, I drew about 400 bushels of charcoal and the carcase of the dog, hair and all, was completely charred. From this I infer that the carbon is solidified in vegetable and animal substances; but I could never discover any thing like oxygen or nitrogen in a solid form in coal-pits. I believe they are entirely driven off; but if we consider that carbonic acid is the result of all combustion and putrid fermentation, and that it is decomposed by plants, we shall cease to be surprised that its carbonic principle should be found so abundant in vegetable and animal substances. But truly I cannot conceive how oxygen or nitrogen can form any aliment of plants. Perhaps some of your correspondents can explain it to my understanding, and thereby oblige

Potter, March 4, 1835. R. M. W.

Staggers in Sheep.—This is a disease of the brain, which renders them unable to stand.

Cure.—Dissolve assafœtida in warm water, and put half a spoonful in each ear of the sheep. It is a speedy remedy.

Colds.—The principal indication of this disease is the discharge of mucus from the nose. Good feeding, together with some pine boughs given them occasionally will cure this complaint. Whenever this becomes habitual with old sheep they should be killed off.—*Farmers' Receipt Book.*

He who who can look quietly at nothing, will never do any thing worthy of imitation.—*Lavater.*

Manures

Are the basis of all fertility in the soil, precisely in the same way that forage, grain and roots are the basis of fatness in our farm stock. All animal and vegetable manures have once been plants, and are capable, by a natural process, of being converted into plants again. They should therefore be husbanded with care and applied with economy. Every crop taken from a field diminishes its fertility, by lessening the quantity of vegetable food in the soil. Unless, therefore, something in the form of manure is returned to the field, an annual deterioration will take place, until absolute barrenness ensues. This fact needs no other illustration than is afforded by every bad managed farm. The object of the husbandman should be to INCREASE the fertility of his farm, because upon this materially depends the profits of his labor. To do this, we advise that cattle yards be made dishing, so as to collect the urine and liquids in the center, and that these be kept well littered with straw, stalks, and the refuse vegetables of the farm, to take up and preserve these liquids, which are a valuable part of the manure:—That these yards be thoroughly cleaned in the spring, and their contents, together with the manure from the stables and pig pen, applied to hoed crops, as corn, potatoes, beans, &c, before fermentation has progressed far;—that it be spread broadcast, ploughed in as fresh as possible, and the ground rolled or harrowed before planting. Thus *all* the manure will be saved, the hoed crops greatly benefitted by it, the weeds destroyed, and as much fertility left in the soil for the grain crop which is to follow, as the same manure would have afforded had it lain in the yard till after midsummer, and been then applied. But if manure *has* rotted, it may be applied to the turnep, or small grain crop. In these cases it should not be buried deep, and may with advantage, at least on dry soils, be harrowed in with the seeds, where it serves frequently a beneficial purpose in protecting the young grain from the severity of winter. —*Cultivator.*

Clover

Will grow on pretty much all soils that have been laid dry by good drains. It is the basis of good farming, on all lands susceptible of alternate husbandry. Its benefits are threefold: it breaks, pulverizes and ameliorates the soil by its tap roots, and it furnishes a cheap food for plants as well as animals. A good clover lay is worth to a crop, by the food which it affords, as much as five tons of manure to the acre. To ensure a good lay, at least ten pounds of seed should be sown to the acre, and the ground well rolled.—Its value, as food for plants, depends more upon the quantity of roots than upon the luxuriance of the stems, though the abundance of the latter will depend in a great measure upon the number of the former. To obtain the full value of this plant, we must cultivate it as a food for our *crops*, as well as our cattle; and in this case we should use it as such the first or second year, before it has run out. There is economy in always sowing clover with small grains, though it is to be ploughed in the same or the next season. Ten pounds of seed costs upon an average one dollar—the labor of sowing is comparatively nothing. Its value to the next crop cannot be less than quadruple that sum, to say nothing of the feed it may afford, or its mechanical amelioration of the soil. We cannot avoid again urging a trial of the method of making clover hay *in cocks*, as we have heretofore recommended, notwithstanding the rebuke we have had upon this head from our esteemed friend and correspondent, Mr. Perkins. We have followed the practice twelve or fifteen years, and hence speak from experience, and with confidence, of its manifest advantages over the common method of spreading from the swath. Put it into small cocks, with a fork, from the swath, as soon as it is treed from external moisture, or well wilted, and then leave it to cure. An hour or two exposure to the sun, previous to its being carted from the field, is all the further care it will require. This mode saves labor, prevents injury from rain, and secures the hay in the best possible condition.—*Ib.*

Culture of Indian Corn.

There is no crop which habit has rendered more indispensable to the wants of our families and our farms than this. The late John Taylor, of Virginia, termed it our "meat, meal and manure." Holding this high rank in our farm economy, it is a subject of moment to adopt the best mode of culture. As many districts are shy in producing wheat, and as this crop is seriously threatened by the new (to us) wheat insect, it becomes more a matter of solicitude to render our corn crops productive. But as this grain demands more labor in its culture than other grain crops, so it is more important, on the score of profit, that it should be well managed; for if thirty bushels an acre, be considered only a remuneration for the labor bestowed on the crop—all that the product falls short of this must be a loss—and all that it exceeds, a nett gain to the cultivator. The first consideration in regard to the corn crop, is to give it a dry mellow soil; the second, that this soil be rich, fat or fertile; and the third, that the seed be timely put in and the crop well taken care of. Neither wet grounds, nor stiff clays, nor poor grounds, will repay, by their product, the labor required on a crop of corn. He who has no other lands but these, should not attempt to raise it as a field crop. He had better bestow his labor upon other objects, and buy his corn. We think the best preparation for corn is a clover lay, well covered with long manure from the barn-yard, well ploughed, and well harrowed. It is better to give sixty loads of dung to three acres than to ten, upon the ordinary lands of our neighborhood. The difference in product will not make up for the difference in labor. Corn can hardly be dunged too high. What we have to recommend, that is not common in the culture of this crop, is—that double the usual quantity of seed be applied—the number of plants to be reduced at the weeding—in order to ensure three or four stalks in each hill;—that the roots be not broken, nor the manure thrown to the surface, by the plough, but that the harrow and cultivator be substituted for it, which will sufficiently mellow the surface and destroy weeds; and that the hills be but slightly earthed. By ploughing and hilling we conceive the manure is wasted, the roots broken and bruized, and limited in their range for food, the crop more exposed to injury from drouth, and the labor increased.

If the fodder which the stalks and shucks afford is an object to the farmer, as they certainly will be when their advantages are appreciated, the securing these in good condition is a matter of importance. To effect this, as well as to secure the crop from the effects of early autumnal frosts, we recommend the practice we have long and satisfactorily followed, of cutting the crop at the ground as soon as the corn is glazed, or the surface of the kernels has become hard, and of immediately setting it up in stooks to ripen and cure. This we have always been enabled to do early in September, and once in the last week in August. The quality of the grain is not impaired, nor the quantity, in our opinion, diminished, by this mode of management, while the fodder is greatly increased, and its quality much improved.—*Ib.*

Plainfield without a Parallel.—There is now remaining in the town of Plainfield, county of Otsego, a Cow owned by Aquilla Moffatt, having been the mother of *ten Calves* in the space of *two years, one month and ten days.* If this is doubted, call on his neighbors. Said cow had *four* calves on the 3d day of January, 1833; *two* on the 2d day of February, 1834; and *four* on the 12th day of February, 1835. This Cow will be five years old some time in the month of April next. —*Freeman's Journal.*

The Arabian horses presented to the President by the Emperor of Morocco, were recently sold at auction in Washington. The first was struck off at $1,205, and the other at $860.

Hot Beds.

Hot Beds, we are aware, are very little employed by farmers; yet many would employ them, we believe, if they were aware of their advantages, and knew how to construct and manage them. The expense is trifling. They are employed to raise early salads, early cabbage plants and cucumbers, and to bring forward plants of other garden products, as tomatoes, egg plants, flowers, &c. and which may be transplanted into the open ground as soon as the season will permit. By means of hot beds, under ordinary management, salads may be had for the table in April and May, cucumbers in May and June, and cabbage and other plants in May, or earlier if desired. There is no specific rule for making a hot bed, yet we will give such directions as will enable those who wish, to make an experiment of their use.

The first thing is to obtain, say three sashes, which are usually about 6 feet long by 3 feet four inches broad. They consist of a stout frame made of plank, with five longitudinal astragals or strips, for the glass to rest upon without any cross pieces, so that each sash will contain six strips of glass, six inches broad, which lap slightly, to throw off the rain. These are the most common form, though the size is not material. Whatever may be the size of the sash, a frame, generally made of plank, must be provided to fit two or three of them, with strips running from front to rear, for the sash to slide upon. The frame may be from 14 to 18 inches on the back side, and about 7 inches less in front, so as to give the glass, when on it, a slope nearly at right angles with the rays of the meridian sun. Having thus a frame and sashes, lay down the former in the place designed for the hot bed, mark out a space extending round the frame 8 to 12 inches, and take out the earth from the enclosed space to the depth of 12 to 15 inches deep, and fill this with unfermented horse dung, separated and equally distributed with a fork, and raise the dung at least 18 inches above the surface of the ground. Put on to this the frame and the glass, and in a short time a rapid fermentation will take place. In two or three days, the dung may be covered with four to six inches of good earth, and if cucumbers are intended to be planted, a hole should be made in the manure under each sash of four or six inches, for the hills, that the depth of earth may be ten or twelve inches. Whenever the violence of the heat has sufficiently subsided, which will be in two or three days more, seeds may be planted, which will appear above ground in 24 or 48 hours. Care must be taken to raise the upper ends of the sash occasionally, to let off the heated air, and to draw them partially down, after the plants are up, when the weather is mild, and to cover the glass with a mat when it is cold, and during a meridian sunshine, to protect the plants from frost and sun. The middle of March or first of April is early enough to prepare a hot bed for plants designed to be transplanted into the open ground. —*Cultivator.*

Ground Feed for Stock.

In that portion of West Chester county bordering on the Hudson, not one farmer in twenty feeds his horses and cattle on whole grain. The grist-mills in the vicinity are furnished with corn and cob crackers. The farmers send oats and corn in the ear in the proportion of about three of the former and one of the latter. After the corn and cob are cracked, the product is put with the oats, and passed through a set of stones expressly for the purpose. The miller takes about one-tenth as a toll. The remainder turns out not far from one-third more bushels than there were in the unground state. One peck of this meal put with cut straw will make a full mess for three horses and a pair of oxen. If the unground corn and oats that produced this peck were given to the same number of horses and oxen, it would scarcely be a mouthful a-piece, and would pass through them not half digested. If the millers about the country would supply themselves with corn and cob crackers, they would soon find business. With one of Green's straw-cutters, I cut up all the hay I feed to two horses, five cows, and a pair of oxen. The cut hay for the cows and oxen is now merely wet with water; and for horses a little corn cob meal is added to the hay. The labor of cutting is comparatively light—one man being enabled to cut enough for the above stock in 10 or 12 minutes. Scarcely a straw is wasted.—*N. Y. Farmer.*

Produce of a Small Farm.

Mr. Editor—I procured from an esteemed neighbor, Mr. Horatio Hoyt, the subjoined account of the produce of three and a half acres of land in Deerfield, Mass., in 1833, a result highly creditable to the cultivator and the soil; and which, I presume, will be interesting to some of your readers. We do not say that it is more than others have done or can do; very far from this; but we hope it may induce others to say what they have done or can do, for such communications cannot fail to be interesting and useful to the agricultural community. The produce is estimated at the market prices at the time.

Yours, respectfully, H. C.

Hay, 3½ tons, at $12 per ton,	$42 00
Wheat, 11 bushels, at $1 50 per bushel,	16 50
Stubble and clover, 1 ton,	4 00
Corn foddder, stalks, blades and husks, 3 tons,	10 00
Corn, 120 bushels, at 80 cents,	96 00
Potafoes, 117 bushels, at 20 cts.	23 40
Apples, 60 bushels, at 12½ cts.	7 50
Pumpkins, 1 cart load,	
—*N. Y. Farmer.*]	$199 40

Yeast as Manure.

An English writer observes that "It is not generally known that yeast is one of the most powerful manures in existence. Some experiments have been tried with grass plats, and different culinary vegetables, from which it appears that a very small quantity of yeast, after it has become putrid and useless to the brewer or baker, will effect wonders when mixed with water and applied to plants as a liquid manure. The only danger seems to be in making it too rich."

Charcoal Dust, as a Top Dressing for Onions.

In a letter on this subject from Mr. Thomas Smith to the Secretary of the London Horticultural Society, it is remarked in substance that charcoal dust, (which in his experiment was the refuse of a charcoal pit,) was spread upon the ground about half an inch thick, before the sowing of the seed, and merely scuffled in with the point of the spade, so as to mix the top soil and charcoal dust together. Six years' experience has convinced Mr. Smith that it is a remedy for the grub, and moldiness in onions; and he has repeatedly proved, that it effectually prevents the clubbing in the roots of cabbages and cauliflowers.

The long pending suit of D'Homergue against the Society for the Promotion of the Silk Culture in Pennsylvania, for damages, which were laid at 15,000 dollars, was yesterday decided by the verdict of a jury, in favor of the defendants, in the District Court of the City and County.—*Phil. Com. Herald*

List of Payments

For the Farmer from March 5, to March 12, 1835.

Caleb Carmalt, to July, 1836.
Nathaniel W. Howell, to July, 1836.
James S. Boughton, to July, 1836.
Them York, vols. 4 and 5.
Harvey Rhoades, vols. 4 and 5.

For the Fifth Volume.

Joseph Blodget.	R. S. Delatre.
Jones Harding.	James Cromwell.
Perry Howland.	J. D. Field.
James Guthrie.	Peleg Garner.
J. Chambers.	Elias Randall.
John E. Hinman.	Ira Doty.

Mrs. —— Ward.

For the Fourth Volume.

Benjamin Ham. | Jonah Brown.

Superior Onion Seed.

THE subscriber offers for sale 1500 lbs superior quality Red Onion Seed, American growth, crop of 1834, heavy fine seed—price 75 cents per pound by the 50 lbs. or more—cash. Also, 500 lbs. Yellow Onion seed—$1. 200 lbs. Large Silver White do.—$1,50. Received by late arrivals from England, France and Holland, a large collection of Early and Late Cabbage seeds; Cauliflower; Brocoli; Mangel Wurzel; White Dutch Clover; Lucerne; Trifolium incarnatum, &c. Also, the best collection of *warranted* Garden Seeds to be found in America. Those who purchase to sell again supplied on accommodating terms. Price currents furnished on application.

GEO. C. THORBURN, *Seedsman,*
March, 1835. 67 Liberty-st., N. York.

Just received from London, 1000 superb Dahlias, which can be sent in April—a separate catalogue of all the fine new varieties can be furnished—among them is the celebrated "*Queen of Dahlias,*" which attracted so much attention at the exhibition in this city last autumn. It is pure white, with cupped petals beautifully edged with lilac—grows but four feet high, and flowers in profusion. It is beyond question the finest Dahlia ever raised in England. Plants of this choice variety will be ready for delivery in pots on the 1st of May, at $2 each. mar 14-3t

Rochester Seed Store & Horti-

CULTURAL REPOSITORY.

No. 5 Arcade Hall, next door but one to the Post-Office.

REYNOLDS & BATEHAM, having completed their assortment, now offer to the public the best and most extensive collection of Garden, Field and Flower Seeds, ever before offered in the Western country.

Their stock is entirely new, and having been purchased directly of the growers and importers, the vitality and purity of the seeds are expressly guaranteed. Farmers and Gardeners will find a great variety of new and valuable Seeds not heretofore introduced into this section of country.

They have also an assortment of superior Horticultural Implements, Books, &c.

Merchants and others supplied with assortments of Seeds for retailing at a liberal discount.

All orders for Seeds, Fruit or Ornamental Trees, Shrubs, Grape Vines, Green-House Plants, &c. &c. by mail or otherwise, will meet with prompt attention.

Cash will at all times be paid for Grass and Clover Seed, Peas, Beans, &c. dec 9-r4tf

Monroe Horticultural Garden & Nursery.

THE subscriber offers to the public a choice selection of Fruit Trees, of French, German, English and American varieties, consisting of Apples, Pears, Plums, Peaches, Cherries, Apricots, Nectarines, Quinces, Currants, Gooseberries, Raspberries, Strawberries, Ornamental Trees, Shrubs, Plants, Hardy Roses, Vines, Creepers, Herbaceous Perennial Plants, Bulbous Roots, &c. &c.

ALSO—A few hundred of the Morus Multicaulis, or Chinese Mulberry, the White Italian Mulberry by the hunbred or thousand, Grape Vines of both native and foreign varieties, mosty of large size, for sale by the single vine, hundred or thousand, at reduced prices. The subscriber has a large collection of Green-House Plants of choice and select varieties, and in good condition.

☞ Orders for *Mr.* Rowe's Nursery received by the Publisher of this paper.

Catalogues will be sent to those who wish them, gratis, or may be had by calling at the office of the Genesee Farmer. ASA ROWE.

Greece, *Monroe* co. N. Y. Sept. 13, 1834.

Clover Seed,

OF both the large and small varieties.—Also, a quantity of White Field Peas, (from Canada,) and large white Marrowfat Peas, of superior quality, just received and for sale at the Rochester Seed Store. REYNOLDS & BATEHAM.

Rochester, Jan. 31, 1835. jan 31

Book for Farmers.

NUTTALL'S Manual of Ornithology of the United States and Canada, with numerous Engravings, a volume containing 700 pages, price $2 50.

For sale by HOYT & PORTER.

Transplanting.

Transplanting is the changing of the localities of entire plants. It is effected by disengaging the roots from the soil, and placing them in new situations favorable to the growth and development of the plant.

To accomplish this successfully, it is desirable that the roots be preserved fresh and entire.

The proper seasons for transplanting ornamental and other trees and shrubs, are the spring and fall. Generally in October and November of the latter period, and March and April of the former. It is commonly best in colder latitudes to remove the more delicate shrubs and trees in spring, but where the climate is not so severe, the autumn is preferable. In the latter case, the winter is not so likely to prove injurious to them.

Those which are natives of countries equally cold and rigorous with the one to which they are removed, may be transplanted either in the spring or autumn, indiscriminately. Such as are natives of warmer climates, and have become acclimated, by culture, to higher latitudes, may be transplanted in spring. They ought to have every advantage that the warm seasons can afford, previous to their exposure to the rigors of winter.

Plants transferred to a less favorable climate, should be removed at a period most favorable to them to support the change without injury Delicate trees, when transplanted in spring form new roots, that take firm hold of the earth during summer. Their roots become established in their position, so that there is far less prospect of injury from the severities of winter It is a matter of little consequence, however, at which of these seasons the hardy kinds are removed.

Plants, when taken from the earth to be transferred, should be removed with much care. Should any injury be sustained by a loss or mutilation of a part of the roots, the whole body of the plant, together with the roots, may be immersed in fresh water during a period of twenty or thirty hours, previous to setting it in the earth again.

The top is to be lessened in proportion to the loss the roots may have sustained. Otherwise the plant will perish from a loss of its wonted nourishment The ordinary quantity of root being diminished, the exhaustion from *evaporation* will be greater than the *absorption* of the remaining portion of root, so that the plant will die by transpiration.

October and November, after the first frosts have arrested the progress of vegetation in woody *perennials*, is recommended as a proper season for *transplanting* them. Some are of the opinion, that the peach, plum, cherry, and most evergreens, succeed best when transplanted in spring.

Any trees, even the most delicate, may be successfully transplanted in autumn, if a little protection be afforded them by covering the root during the first and most trying winter. Where complete success is hoped, it is best to shift their locality in the fall, if possible.

The protection of most trees, shrubs und woody plants, may consist in spreading a few inches of litter from the stable around the trunk and over the roots.

Moss from the meadow and evergreen boughs are highly recommended for the protection of delicate plants. They are not liable to undergo decomposition during the winter, and thereby injure and destroy what they were designed to protect.

Delicate plants are sometimes supposed to be destroyed by too much protection after being transplanted, when, in fact, they perish for want of it, being killed by the alternate freezing and thawing of the earth at its surface. This difficulty might have been easily obviated by covering them with evergreen boughs or meadow moss.

When trees or shrubs are transplanted in autumn, the earth becomes consolidated at their roots, so that the radical fibres soon take firm footing in the earth, and the plant is prepared to vegetate with the earliest advances of spring.

The excavations in the earth for the reception of the roots of trees and shrubs should bear some proportion to their size. They may generally be made from four to six feet in diameter, and of about eighteen or twenty inches in depth. Large trees will require a larger opening than this, and small ones not so large.

The yellow or subsoil where they are to be located may be thrown out, and replaced at bottom with a fine mould, intermixed with a portion of good manure.

Trees transplanted should stand two or three inches deeper in the earth than they stood previous to their removal In no case should the extra depth exceed this.

The radical fibers are to be spread horizontally in their natural position, and the soil intimately blended with them and compactly pressed about the trunk and over the roots.

No manure should be permitted to come in immediate contact with the roots, though it should be plentifully placed about them on all sides. Should it touch them, they would be likely to sustain injury and rot.

The ground before being trodden very hard about the roots, is to be plentifully moistened by pouring water about the plant

In transplanting evergreens, it is generally recommended previous to treading the earth about their roots, to pour several gallons of water about the trunk, and after filling in with earth, to finish by treading it as hard as possible for the space of half an hour or more. This would be a good rule to follow in regard to all trees of whatever kind.

June has been considered by many as the best month for transplanting *annuals* that are cultivated as Florists' Flowers, and September the most suitable for transplanting *biennials*.

In transplanting plants of every description, it is desirable that as much earth as possible be removed with the roots. If this be done, there will be less danger of their suffering by the change of situation.

Though moist, cloudy weather is generally best for transplanting, it should not be done when the ground is very wet. The earth should be only moderately moist, otherwise it will be clammy and heavy.

The operation of transplanting is most successfully performed in cloudy days, and a little before evening previous to a shower The reasons for this are obvious. If it be done when the earth is dry and in the middle of the day, plants require watering and shading for a considerable time afterwards.

If the root be small, or injured, or destitute of earth when taken up, it will require that the earth which is placed about it be made finer, and pressed more firmly, and that the plant be more plentifully watered. It will also require to be longer shaded.

Plants, transferred to pots and boxes, after having the soil pressed firmly about them on all sides, should also be plentifully watered and for some time shaded. Care is to be taken that the shell be placed over the aperture at the bottom of the vessel, otherwise the plant will perish through a superabundance of moisture. Saturation of the earth without an outlet at the bottom, will rot the root and destroy the plant —*Florists' Manual.*

Recipes, &c.

TRANSLATED FOR SILLIMAN'S JOURNAL OF SCIENCE AND ARTS BY PROF. J. GRISCOM.

Easy method of giving greater strength and firmness to thread, network, cordage and coarse cloth.—The lixivium of oak bark has been employed for scarcely any other purpose than that of the tanner, and yet it is applicable to a great variety of uses. If thread, cords, nets, coarse linen, &c. be steeped in it, they acquire greater firmness and durability. Fishermen have long resorted to this. Nothing is more apt to spoil than skins, and yet this preserves them. It is the same with hempen and linen cloth. They contain much gummy and resinous matter, which with tannin forms an envelop, and thus adds to their durability Linen ought not to steep more than eight or ten days in this solution; it acquires a very brown color. When this color fades the operation may be repeated.

The best method of preserving nets and cordage is the following: dissolve two pounds of Flemish glue in fifteen gallons of water—dip the nets, &c. in this solution, and then steep them in a strong solution of oak or chestnut bark,—the tannin combines with the gelatin, and forms, between the fibers of the hemp, a solid net work which adds great strength to the cords. Any bark which contains tannin may be employed in making a decoction; so bones, parings of skin, remains of fish, &c. and generally all substances containing gelatin may be used in making a gelatinous solution. Fishermen who often throw away on the shore gelatinous fish, may use them for this purpose.—*Jour. des Connais. Usuelles*

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A tried recipe for burns.—Keep on hand a saturated solution of alum (four ounces in a quart of hot water,) dip a cotton cloth in this solution and lay it immediately on the burn. As soon as it shall have become hot or dry, replace it by another, and thus continue the compress as often as it dries, which it will, at first, do very rapidly. The pain immediately ceases, and in twenty-four hours under this treatment the wound will be healed, especially if the solution be applied before the blisters are formed. The astringent and drying quality of the alum completely prevents them. The deepest burns, those caused by boiling water, drops of melted metal, phosphorus, gunpowder, fulminating powder, &c. have all been cured by this specific.—*Idem.*

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To remove a hard coating or crust from glass and porcelain vessels.—It often happens that glass vessels, used as pots for flowers and other purposes, receive an unsightly deposit or crust, hard to be removed by scouring or rubbing. The best method to take it off, is to wash it with a little dilute muriatic acid. This acts upon it and loosens it very speedily.—*Idem.*

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Scotch method of preserving eggs.—Dip them during one or two minutes in boiling water The white of the egg then forms a kind of membrane, which envelopes the interior and defends it from the air. This method is preferable to the varnish proposed by Reaumur.

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Preservation of skins.—J. Stegard, tanner at Tyman, in Hungary, completely preserves raw hides from putrefaction, and restores those that are tainted, by applying to them, with a brush, a layer of pyroligneous acid. They absorb it very speedily, and it occasions no injury nor diminution of their value.—*Recueil Industrielle.*

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Action of heat upon razors.—It has been asked why, in time of frost, a razor, unless it be warmed, will not cut without irritating the skin? It is because, when it freezes, the edge of a razor, examined by a microscope, is like a saw, and as soon as warmed becomes smooth.—*Idem*

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Substitute for India ink.—Boil in water, some parchment or pieces of fine gloves, until it is reduced to a paste.

Apply to its surface while still warm, a porcelain dish which has been held over a smoking lamp: the lamp black which adheres to it, will become detached and mingle with the paste or glue Repeat the operation until the composition has acquired the requisite color. It is not necessary to grind it. It flows as freely from the pencil as India ink, and has the same transparency.

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To destroy caterpillars.—To 15 gallons of water add 1¼ lbs. of common soap, the same quantity of flower of sulphur, and 2 lbs mushroons, (the poisonous kind.) Put the whole over a moderate fire and keep it stirring. Caterpillars, grubs, &c. watered with this liquor, immediately perish.

This recipe is said to come from Germany, where it has extraordinary success.

Ointment for Sprains, Swellings, and Rheumatism.—Simmer together for 15 minutes half a pound of neat's foot oil, one gill of brandy, and one gill of spirits of turpentine.